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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,953	03/22/2005	Roger Krahenbuhl	0115-050642	9157
28289	7590	01/10/2006	EXAMINER	
THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			PAK, SUNG H	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,953	<b>Applicant(s)</b> KRAHENBUHL ET AL.	
	<b>Examiner</b> Sung H. Pak	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

Preliminary amendment filed 3/22/05 has been entered. Claims 21-39 are now pending.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Objections***

Claim 35 is objected to because of the following informalities: the recitation “the circuit board” lacks proper antecedent basis. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-24, 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Kyomasu et al (US 5,684,903).

Kyomasu patent discloses: a connector for detachable connection of at least one optical waveguide to at least one optoelectronic component which is arranged on the surface of a support, and which has an optical axis perpendicular to the support, wherein: the optical

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waveguide include a fiber-optic plug (Fig. 1B); and the connector includes a base part ('10' Fig. 1B) which is fasten to the surface of the support ('10c' Fig. 1B); surrounding the optoelectronic component ('50' Fig. 1B); and which has a through hole ('10z' Fig. 1B) for optical signal to be exchanged between the optoelectronic component and the optical waveguide; and a coupling part ('20' Fig. 1C) which is coupled to the base part facing outward and which has an insertion opening for the insertion of the fiber optic plug connector (Fig. 1C, Fig. 6E);

wherein the base part comprises a plate ('10a' Fig. 1C) which extends transversely to the direction of the insertion of the fiber optic plug, which can be connected on one side to the coupling part (Fig. 1C); and which has on the other side an adapter ('10f' Fig. 1C) with which the base part can be placed onto the support;

wherein the fiber optic plug includes: a ferrule in which the optical waveguide ends ('500b' Fig. 6E); a ferrule holder for receiving the ferrule when the plug connector is inserted on the base part ('30' Fig. 6E); the ferrule holder provided on the side of the plate opposite the adapter, whereupon the through hole opens out into the ferrule holder (Fig 6E);

wherein the ferrule holder protrudes into the coupling part (Fig. 6E);

wherein the adapter and the ferrule holder are part of a one-piece insert ('10' Fig. 6E);

further including a focusing lens arranged at the entry of the through hole (SELFOC lens '40' Fig. 6E);

wherein the plate of the base part is arranged parallel to the support (Fig. 6E); and the thorough hole and the insertion opening run in the direction of the optical axis of the optoelectronic component (Fig. 6E); wherein the adapter is formed in a cylinder manner (Figs. 2A-2B).

Claims 21, 35-38 are rejected under 35 U.S.C. 102(b) as being anticipated by DeAndrea et al (US 5,708,743).

DeAndrea discloses an optical device with limitations set forth in the claims, including: a connector for detachable connection of at least one optical waveguide to at least one optoelectronic component which is arranged on the surface of the support, and which has an optical axis perpendicular to the support (Fig. 13); wherein: the optical waveguide includes a fiber-optic plug connector (column 2 lines 49-63); the connector includes a base part which is fastened on the surface of the support ('150' Figs. 13-14); surrounding the optoelectronic component ('30' Fig. 13-14); and which has a through hole for optical signal to be exchanged between the optoelectronic component and the optical waveguide ('125' Fig. 13; '175' Fig. 14); and a coupling part ('40/70' Fig. 13-14) which is coupled to the base part facing outward and which has an insertion opening ('76' Fig. 13-14) for the insertion of the fiber optic plug connector;

wherein the base part comprises a plate ('80, 81' Fig. 13) which extends transversely to the direction of the insertion of the fiber optic plug, which can be connected on one side to the coupling part and which has on the other side an adapter ('100' Fig. 13) with which the base part can be placed onto the support;

wherein the plate of the base part is arranged perpendicular to the support (Fig. 13); the through hole and the insertion opening runs parallel to the circuit board (Fig. 13); and the connector further includes means for the orthogonal deflection of the light rays passing between the optoelectronic component and the optical waveguide in the adapter ('310' Fig. 12-13);

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wherein the deflecting means includes a hemispherical lens ('340' Fig. 12) and a planar reflecting surface ('310' Fig. 12).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyomasu et al (US 5,684,903).

Kyomasu patent discloses an optical device with limitations as discussed above, except it does not explicitly teach the use of the one-piece insert inserted through a separate plate component. However, the use of additional 'plate' or flange component is well known and common in the optoelectronic package art. Such plate or flange component connected to the

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ferrule holder element is considered advantageous and desirable in the art because it allows for precise and accurate alignment and mechanical coupling of fiber optic plug with optoelectronic housing. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Kyomasu to have a separate plate element coupled with the one-piece insert for better optical plug coupling.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kyomasu et al (US 5,684,903).

Kyomasu discloses an optical device with limitations as discussed above, except it does not explicitly teach the use of a VCSEL as the light emitting laser. On the other hand, VCSELs are well known and common in the art. VCSELs are advantageously used because it has the ability to produce a circular, low- divergence output beam in a perpendicular direction, which simplifies or even eliminates the need for complex light focus optics in many applications. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Kyomasu to have VCSEL as the light emitting laser.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571)272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak  
Primary Patent Examiner  
Art Unit 2874